

Overview for  
FMSIC/BRC Annual Conference

# **Facilities Modernization Update: Oak Ridge National Laboratory**

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Chief Financial Officer  
Oak Ridge National Laboratory

March 18-20, 2003  
Conference Location - Bethesda, MD

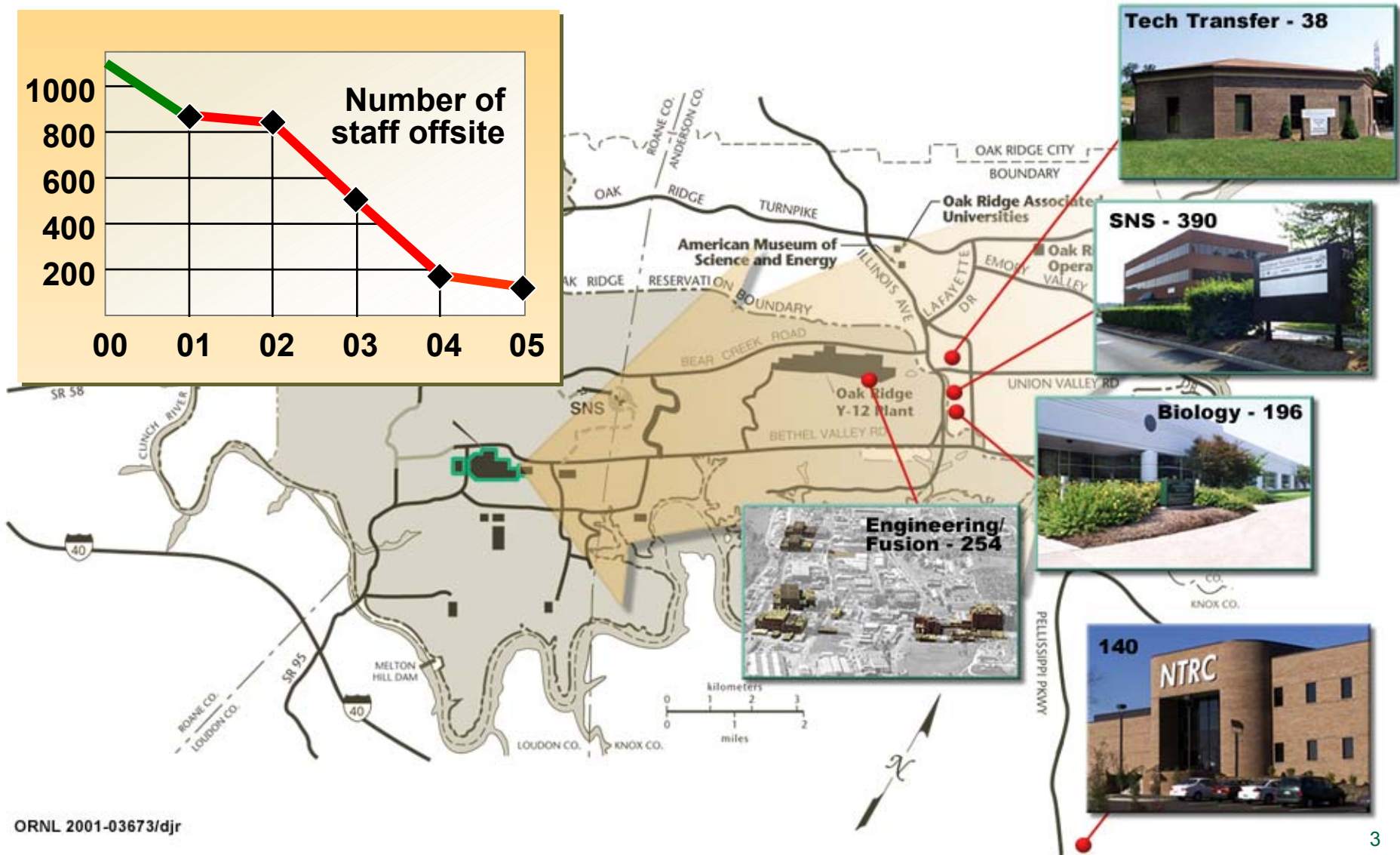
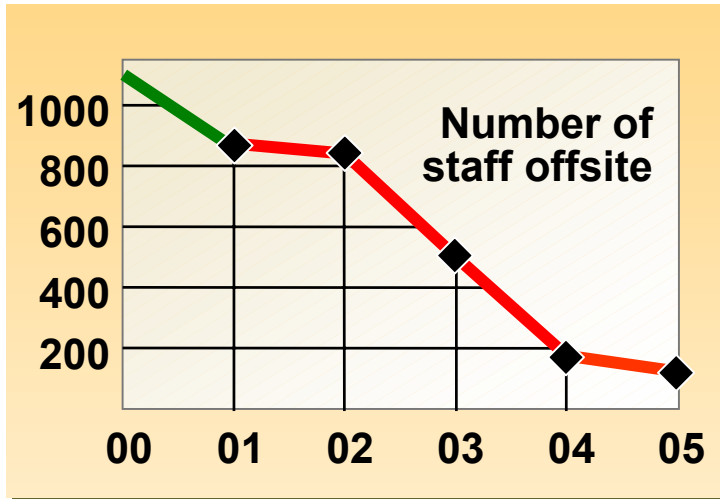
# Our three-part modernization strategy

**1** Build new and refurbish key facilities

**2** Vacate old, expensive space

**3** Consolidate staff at main site

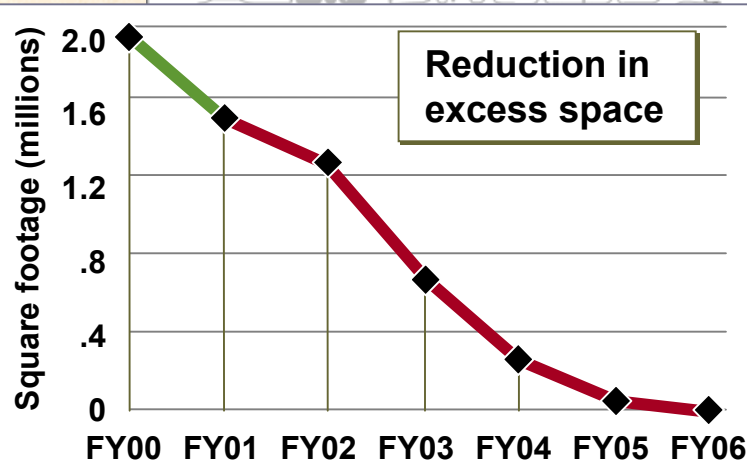
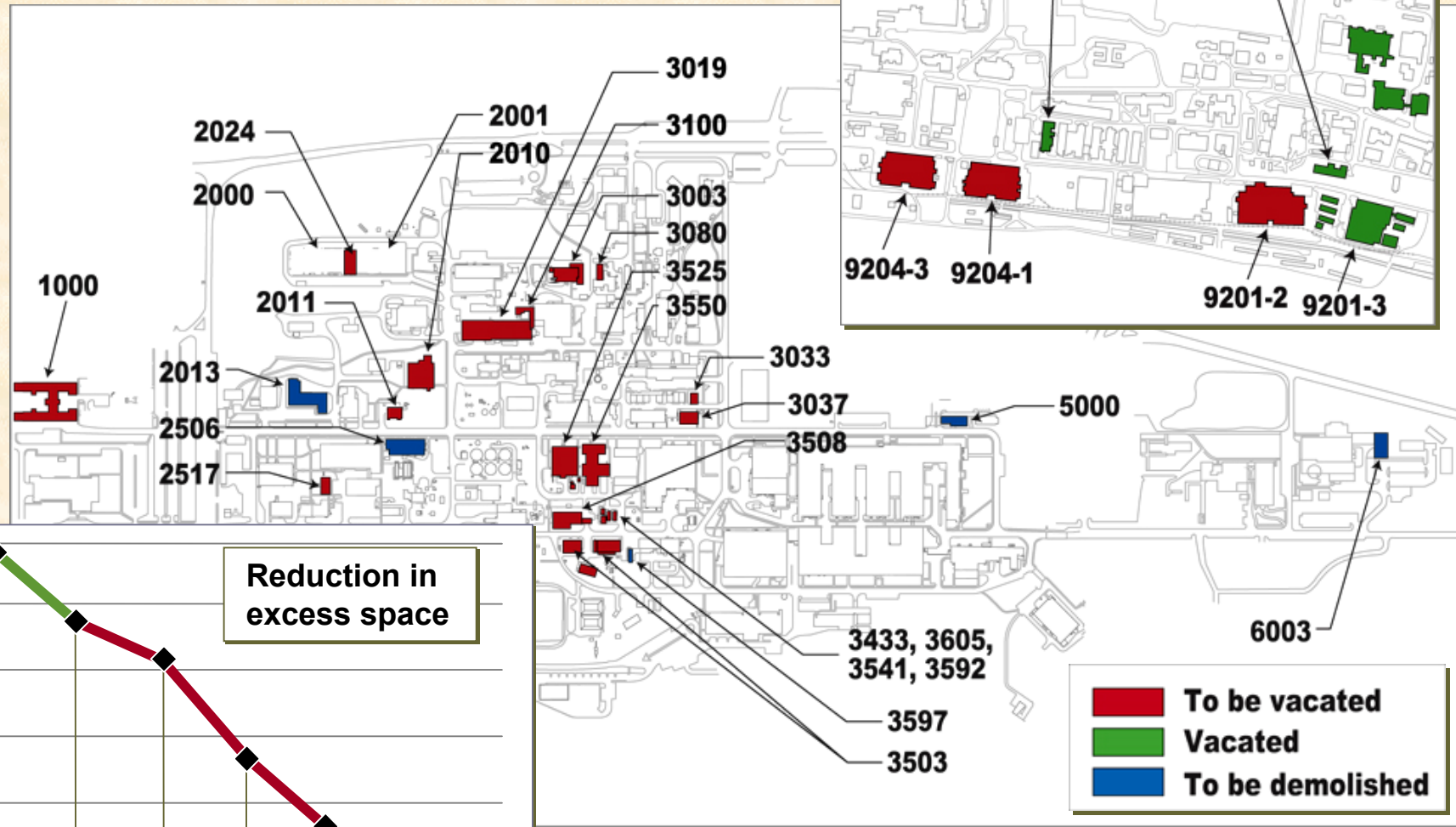
# By 2005 we will have consolidation activities complete





# Our goal is to exit 1.8 million square feet of excess space

Y-12 locations



# DOE expects UT-Battelle to address aging infrastructure at ORNL

**DOE**



**For Major  
Science Facilities  
And Infrastructure**

- Pushing the edge of science and engineering
- Single purpose “machines”
- Basic stewardship responsibility

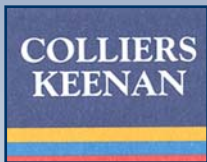
**State**



**Joint Institutes  
With University  
Partners**

- Building collaborations for shared research opportunities
- Training of faculty and students
- Economic development for the state

**Private  
Sector**



**Commercial  
Laboratory  
And Office Space**

- Public/private partnership enables government access to private financing
- Takes advantage of commercial practices – faster and cheaper



# We are making outstanding progress in facilities modernization



**OAK RIDGE NATIONAL LABORATORY**  
**U.S. DEPARTMENT OF ENERGY**



# Unprecedented new construction

## DOE Programmatic Investments

- ☒ Functional Genomics Laboratory
- ☒ Center for Nanophase Materials
- ☐ Energy R&D Facility
- ☐ Protein Analytical
- ☐ Fusion
- ☒ SANS Guide Hall
- ☒ Spallation Neutron Source

## DOE Infrastructure Investments

- ☐ Increased GPP/GPE
- ☒ Advanced Materials Lab
- ☒ Institutional GPP
- ☐ Research Support Center
- ☐ Chemistry Lab Rehab (4500)

## Private Sector Investments

- ☒ Computational Sciences Building
- ☒ Engineering Technology Facility
- ☒ Research Office Building

## State of Tennessee Investments

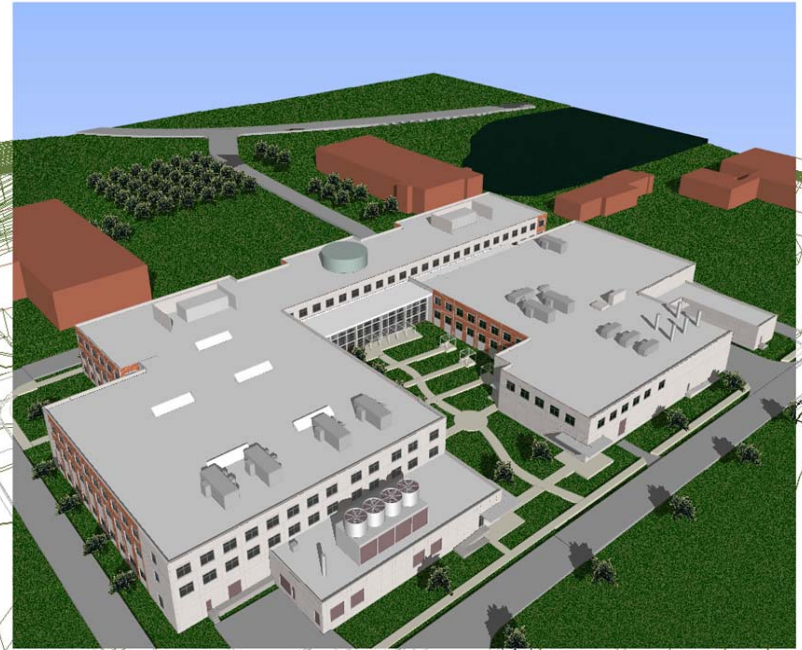
- ☒ Joint Institute for Computational Sciences
- ☒ Oak Ridge Center for Advanced Studies
- ☐ Joint Institute for Biological Sciences
- ☐ Joint Institute for Neutron Sciences

**FY02 construction funding:  
More than \$350 million**



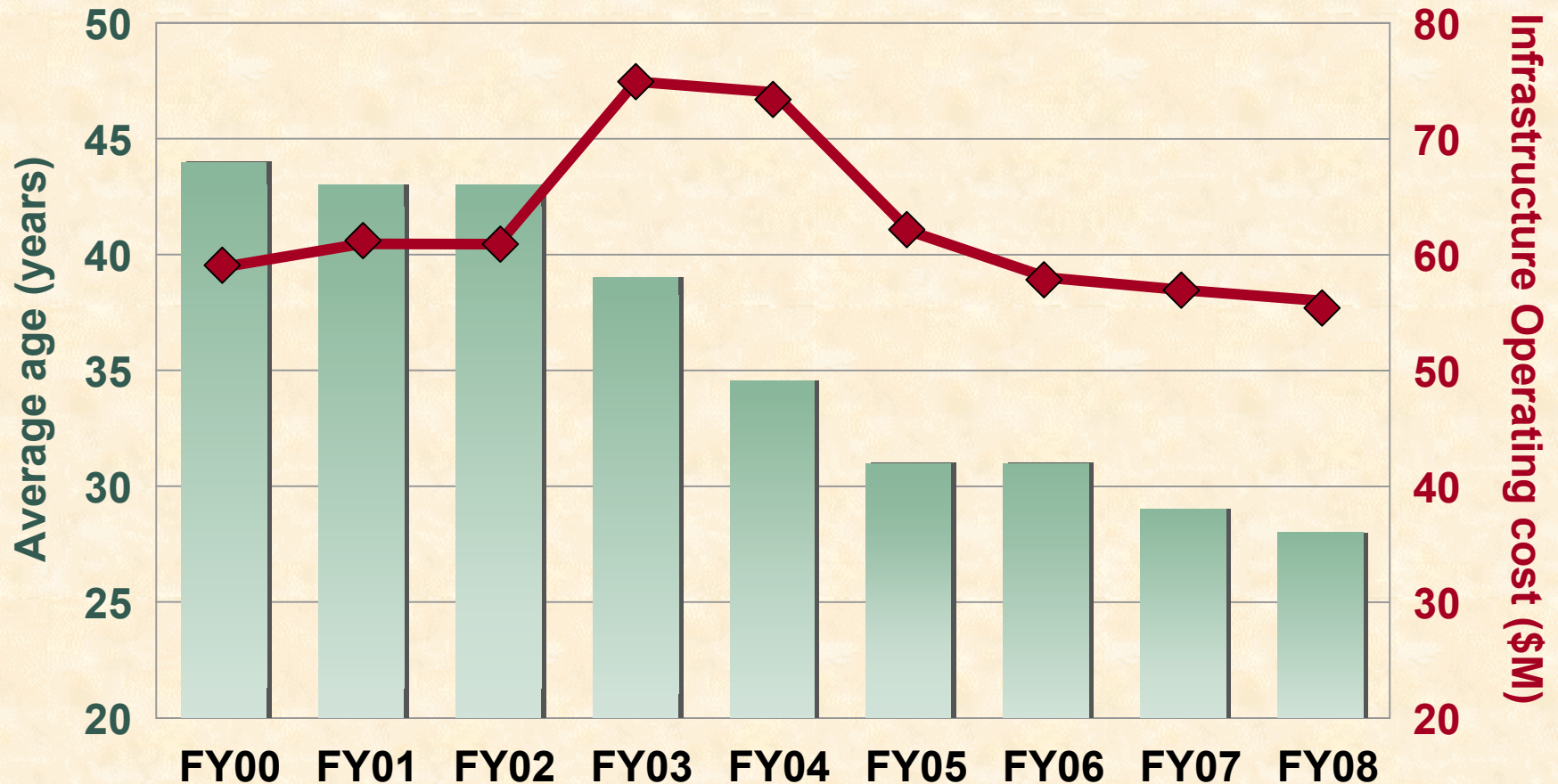
# Project Vitals

- **\$70.9M TPC**
- **Construction start (3/02) and ends (8/03)**
- **Taxable lease back revenue bonds**
- **Mature 2028**
- **Interest rate is 8%**
- **Lease payments**
  - **\$6.5M for years 1 - 5**
  - **\$6.9M for years 6 - 25**

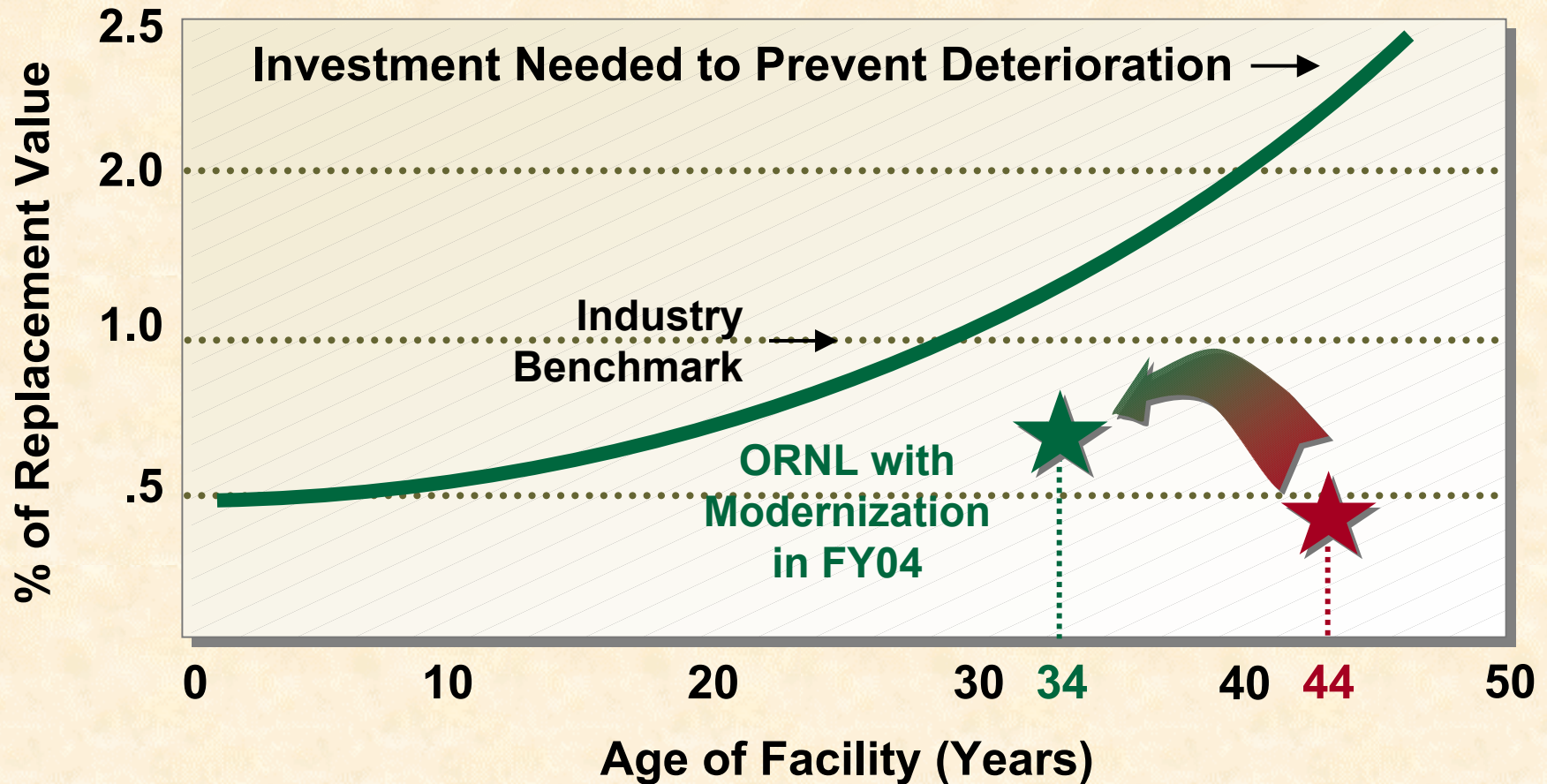




# New facilities will strengthen ORNL without increasing operating costs



# Our modernization strategy will also improve our maintenance effort





# Private-sector facilities



# Construction Status – ( Feb 2003)

*project on schedule; CSB and ROB may finish early*

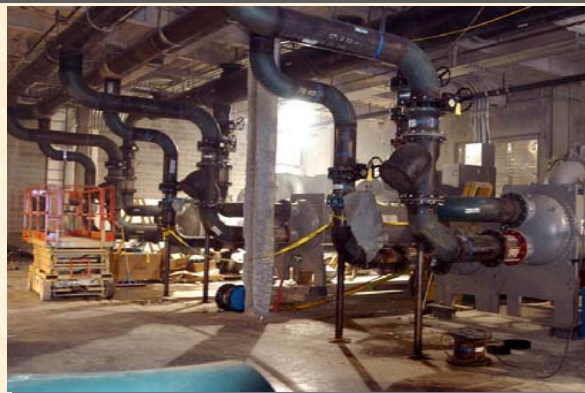
- 16 weeks to CSB completion (June 19, 2003)  
23 weeks to ROB/ETF completion (August 9, 2003)
- Site work 90% complete
  - Underground utilities 95% complete
  - Grading/hardscape/landscaping 65% complete
- Structural work 70% complete
  - Building envelopes (floors, walls, roofs) 85% complete
  - Building interior structures (walls, ceilings, etc.) 45% complete





# Construction Status (continued)

- Mechanical/electrical 30% complete and major equipment installed
- Interior finishing >10% complete
  - Raised floor in main computer room completed
  - Painting commenced in CSB
  - Floor covering, light fixtures
  - CSB Drywall Complete



- ORNL plant tie-ins well underway (telecom, fire, security, etc.)
- Detailed preparation for furnishings and equipment installation are underway

# Construction Status (continued)

- U.T. Battelle Proudly Presents....



# ORNL's east campus in 2005

An aerial photograph of the ORNL east campus in 2005. The image shows a large complex of multi-story brick and concrete buildings arranged in a grid-like fashion. A central green lawn area is visible. The campus is surrounded by dense green trees. In the background, industrial structures and smokestacks are visible against a hilly landscape. Five callout boxes with white backgrounds and black text are overlaid on the image, each pointing to a specific building. The boxes are: 1. 'Computational Sciences Building (Private sector)' pointing to a building in the upper left. 2. 'Research Office Building (Private sector)' pointing to a building in the middle left. 3. 'Engineering Technology Facility (Private sector)' pointing to a large building in the lower left. 4. 'JICS/ORCAS (State of Tennessee)' pointing to a building in the middle right. 5. 'Research Support Center (DOE)' pointing to a building in the lower right.

**Computational  
Sciences Building  
(Private sector)**

**Research  
Office Building  
(Private sector)**

**Engineering  
Technology  
Facility  
(Private sector)**

**JICS/ORCAS  
(State of Tennessee)**

**Research Support  
Center (DOE)**



# The west campus is also being revitalized

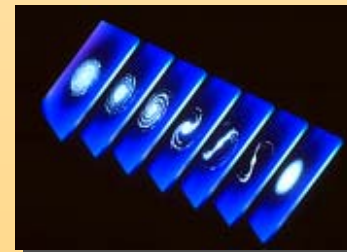
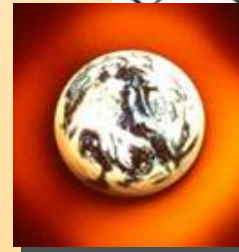
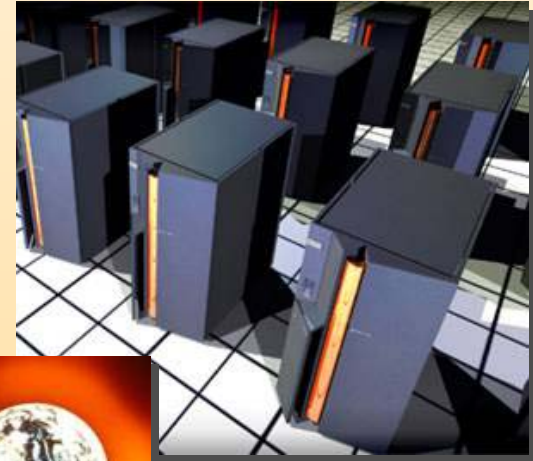
Laboratory for  
Comparative and  
Functional Genomics  
(Now under construction)

Joint Institute for  
Biological Sciences  
(Future funding from  
State of Tennessee)



# Scientific computing

- 4.5-teraflops IBM Cheetah in operation
- Working with Cray on a 40-teraflops machine
- OC-192 network connection links ORNL and major research universities
- Major DOE resource for SciDAC
- Common Component Architecture (CCA) recognized as one of DOE's Top 10 science achievements for 2002



# State-of-the-art computing facilities

## Computational Sciences Building



- On schedule for completion in June 2003
- Primary data networking hub for ORNL

## Joint Institute for Computational Sciences



- Groundbreaking in August 2002
- Expands our partnership with UT



# Maximizing research effectiveness

- We have made a series of investments in the Laboratory's future
- We will continue our efforts to hold the line on costs
  - Reducing the physical footprint
  - Reducing demands on existing infrastructure
  - Streamlining our information technology infrastructure
- We are focusing on growing our top line in the future



# **In summary . . .**

- **We continue to maintain strong DOE and stakeholder support**
- **The facilities are essential to accomplishing DOE mission objectives and are integral to the future of ORNL**
- **The facilities enable a reduction in operating costs, lease costs paid from existing overhead budgets**
- **We have made good progress on consolidation and disposal of old facilities as well as construction of new support facilities**

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